

WHAT IS CLAIMED IS:

1                   1.       A method for manufacturing a semiconductor power device,  
2 comprising:  
3                   identifying an active region on a semiconductor die;  
4                   identifying a first region in said active region;  
5                   identifying a second region in said active region;  
6                   providing a first cell design by which active cells in said first region will  
7 be fabricated; and  
8                   providing a second cell design by which active cells in said second region  
9 will be fabricated,  
10                  said first cell design being different from said second cell design.

1                   2.       The method of claim 1 wherein said first cell design and said  
2 second cell design include cell dimensions such that a cell density of said first region is  
3 different from that of said second region.

1                   3.       The method of claim 1 wherein said first cell design includes at  
2 least one physical dimension different from that included in said second cell design.

1                   4.       The method of claim 3 wherein said physical dimension includes a  
2 channel width.

1                   5.       The method of claim 4 wherein said physical dimension includes a  
2 cell die area.

1                   6.       The method of claim 1 wherein said first cell design includes a  
2 material composition for cells that is different from that of said second cell design.

1                   7.       The method of claim 1 wherein said first cell design differs from  
2 said second cell design with respect to current density.

1                   8.       The method of claim 1 wherein said first cell design differs from  
2 said second cell design with respect to source resistance.

1                   9.       The method of claim 1 wherein said first cell design differs from  
2 said second cell design with respect to transconductance.

1                   10.     The method of claim 1 wherein said first cell design differs from  
2     said second cell design with respect to gain.

1                   11.     The method of claim 1 wherein said first cell design differs from  
2     said second cell design with respect to threshold voltage.

1                   12.     The method of claim 1 wherein said first cell design and said  
2     second cell design are field effect transistors.

1                   13.     The method of claim 1 wherein said first cell design and said  
2     second cell design are memory cells.